Eastern Analytical, Inc.
professional laboratory and drilling services

Allan Palmer
Granite Shore Power
431 River Road
Bow , NH 03304

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 222504
Client Identification: Merrimack Station Toxicity
Date Received: 2/23/2021

Dear Mr. Palmer :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw — Lorraine Olashaw, Lab Director

3/12/21 — Date

36 — # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **222504**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station Toxicity**

Temperature upon receipt (°C): 2.3 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date/Time Sampled		Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
222504.01	003 Composite	2/23/21	2/23/21	8:33	aqueous		Adheres to Sample Acceptance Policy
222504.02	003 Grab	2/23/21	2/23/21	8:47	aqueous		Adheres to Sample Acceptance Policy
222504.03	Merrimack River	2/23/21	2/23/21	8:25	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 4th edition, 1992

LABORATORY REPORT

EAI ID#: **222504**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station Toxicity**

Sample ID: 003 Composite

Lab Sample ID: 222504.01
Matrix: aqueous
Date Sampled: 2/23/21
Date Received: 2/23/21

		Units	Analysis Date	Analysis Time	Method	Analyst
Solids Total	**61**	mg/L	02/23/21	11:30	2540B-11	KJD
Solids Dissolved	**73**	mg/L	02/25/21	11:20	2540C-11	KJD
Alkalinity Total (CaCO3)	**12**	mg/L	02/26/21	11:45	2320B-11	RB
Ammonia-N	**0.16**	mg/L	02/26/21	11:39	TM NH3-001	SEL
TOC	**3.3**	mg/L	02/24/21	16:57	5310C-00	LO

Sample ID: 003 Grab

Lab Sample ID: 222504.02
Matrix: aqueous
Date Sampled: 2/23/21
Date Received: 2/23/21

		Units	Analysis Date	Analysis Time	Method	Analyst
Total Residual Chlorine	< 0.01	mg/L	02/23/21	11:30	4500ClG-00	CJJ

LABORATORY REPORT

EAI ID#: **222504**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station Toxicity**

Sample ID: Merrimack River

Lab Sample ID: 222504.03

Matrix: aqueous

Date Sampled: 2/23/21

Date Received: 2/23/21

		Analysis				
		Units	**Date**	**Time**	**Method**	**Analyst**
Alkalinity Total (CaCO3)	**11**	mg/L	2/26/21	11:45	2320B-11	RB
Ammonia-N	**0.17**	mg/L	2/26/21	11:41	TM NH3-001	SEL
TOC	**3.2**	mg/L	2/24/21	17:11	5310C-00	LO

LABORATORY REPORT

EAI ID#: **222504**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station Toxicity**

Sample ID:	003 Composite	Merrimack River					
Lab Sample ID:	222504.01	222504.03					
Matrix:	aqueous	aqueous					
Date Sampled:	2/23/21	2/23/21					
Date Received:	2/23/21	2/23/21	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Aluminum	**0.13**	**0.11**	AqTot	mg/L	2/25/21	200.8	DS
Cadmium	< 0.0005	< 0.0005	AqTot	mg/L	2/25/21	200.8	DS
Copper	**0.0012**	**0.023**	AqTot	mg/L	2/25/21	200.8	DS
Lead	< 0.0005	**0.0013**	AqTot	mg/L	2/25/21	200.8	DS
Nickel	< 0.001	< 0.001	AqTot	mg/L	2/25/21	200.8	DS
Zinc	**0.0051**	**0.0071**	AqTot	mg/L	2/25/21	200.8	DS
Total Hardness (as CaCO3)	**15**	**16**	AqTot	mg/L	2/25/21	200.8	DS

LABORATORY REPORT

EAI ID#: **222504**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station Toxicity**

Sample ID: 003 Grab

Lab Sample ID: 222504.02

Matrix: aqueous

Date Sampled: 2/23/21

		Units	Date of Analysis	Method	Analyst
Field pH	**6.10**	SU	2/23/21	SM4500H	TNC
Field Specific Conductance	**220**	uS/cm	2/23/21	SM2510B	TNC

Sample ID: Merrimack River

Lab Sample ID: 222504.03

Matrix: aqueous

Date Sampled: 2/23/21

		Units	Date of Analysis	Method	Analyst
Temperature	**6**	°C	2/23/21	SM2550B	TNC
Field pH	**6.25**	SU	2/23/21	SM4500H	TNC
Field Specific Conductance	**140**	uS/cm	2/23/21	SM2510B	TNC

New England Bioassay Inc.

Aquatic Toxicity Testing Services

77 Batson Drive
Manchester, CT 06042
(860)-643-9560
www.nebio.com

ACUTE AQUATIC TOXICITY TEST REPORT

Permitee: Merrimack Station NPDES # NH0001465
Report submitted to: Eastern Analytical
25 Chenell Dr, Concord, NH 03301
Sample ID: 003 Composite
Test Month/Year: February 2021
NEB Proj # 899154

Test Type / Method: *Ceriodaphnia dubia* Acute Static Non-Renewal Freshwater Test Method 2002.0; EPA 821-R-02-012
Pimephales promelas Acute Static Non-Renewal Freshwater Test Method 2000.0; EPA 821-R-02-012

Effluent Sample Date (s): 2/22-23/21 Time (s): 0833-0833
Receiving Water Sample Date: 2/23/21 Time: 0825
Test Start Date: 2/23/21

Results Summary

Your results were as follows:

Monitoring Only

Acute Test Results

Species	LC50	A-NOEC	Permit Limit	Pass / Fail
Ceriodaphnia dubia	>100%	100%	monitor	N/A
Pimephales promelas	>100%	100%	monitor	N/A

Data Qualifiers affecting this test:

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

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TEST REPORT CERTIFICATION

Permittee name:	Merrimack Station	Permit number:	NH0001465
Client sample ID:	003 Composite	Test Start Date:	2/23/21

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: _____
(Date)

_____
Authorized Signature

_____
Print or Type Name and Title

_____
Print or Type the Permittee's Name

NH0001465
Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 3/11/21
(Date)

Kimberly Wills
Kimberly Wills
Laboratory Director
New England Bioassay Inc.

GENERAL TEST CONDITIONS

Permittee name: Merrimack Station Permit number: NH0001465
Client sample ID: 003 Composite Test Start Date: 2/23/21

Sample Collection Information

Effluent Sample Date (s): 2/22-23/21 Time (s): 0833-0833
Receiving Water Sample Date: 2/23/21 Time: 0825

Were samples used within the first 36 hours of collection? Yes ☑ No ☐ * (see note below)
* sample collection note:

Test Conditions

Permittee's Receiving Water: Merrimack River

Ceriodaphnia dubia

- Dilution water: Receiving water collected at a point immediately upstream of or away from the discharge
- Control water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO3)

Pimephales promelas

- Dilution water: Receiving water collected at a point immediately upstream of or away from the discharge
- Control water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO3)

Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 50%, 100%
Was effluent salinity adjusted? No ☑ Yes ☐ with Instant Ocean sea salts to _____ ppt
Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method
• Dechlorination was not required

Aeration: Did Dissolved Oxygen levels fall below 40% saturation? Yes ☐ No ☑
Test Aerated at <100 bubbles/minute as of: N/A (for Fathead minnow test only)

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Ceriodaphnia dubia		***Fathead minnows***	
Date:	2/3/21	Date:	2/2/21
Toxicant:	Sodium chloride	Toxicant:	Sodium chloride
Dilution Water:	NEB Soft Water	Dilution Water:	NEB Soft Water
Organism Source:	NEB	Organism Source:	NEB
Survival 48-h LC50:	1.61 g/L	Survival 48-h LC50:	7.21 g/L
Results within range	Yes ☑ No ☐	Results within range	Yes ☐ No ☐

TEST RESULTS

Permittee name: Merrimack Station Permit number: NH0001465

Client sample ID: 003 Composite Test Start Date: 2/23/21

Test Acceptability Criteria

Ceriodaphnia dubia		*Pimephales promelas*	
Lab Control Survival:	100 %	Lab Control Survival:	100 %
Diluent Control Survival:	100 %	Diluent Control Survival:	100 %
Thiosulfate Control Survival:	N/A %	Thiosulfate Control Survival:	N/A %

Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

	Ceriodaphnia dubia			*Pimephales promelas*		
	Results	Permit Limit	Pass/Fail	Results	Permit Limit	Pass/Fail
48 hr LC50	>100%			>100%		
Upper Confidence Limit	±∞			±∞		
Lower Confidence Limit	100%			100%		
Method Used	Graphical			Graphical		
48 hr A-NOEC	100%			100%		

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Concentration - Response Evaluation

Cerio: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

Fatheads: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Cerio	Fathead	
X	X	Results are reliable and reportable
		Results are anomalous (see explanation below)
		Results are inconclusive - retest (see explanation below)

TEST RESULTS

Permittee name:	Merrimack Station	Permit number:	NH0001465
Client sample ID:	003 Composite	Test Start Date:	2/23/21

Results Discussion (if applicable):

TEST METHODS

Ceriodaphnia dubia

Test type:	Acute Static Non-Renewal Freshwater Test
Test Reference Manual:	EPA-821-R-02-012 "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater Organisms and Marine Organisms"
Test Method:	*Ceriodaphnia dubia* Survival Acute Toxicity Test - EPA 2002.0
Temperature:	25 ˚C ± 1˚C (Temperatures should not deviate by more than 3˚C during the test) (required)
Light Quality:	Ambient Laboratory Illumination (recommended)
Light Intensity:	10-20 µE/m2/s, or 50-100 ft-c (recommended)
Photoperiod:	16 hours light, 8 hours dark (recommended)
Test chamber size:	30 mL (recommended minimum)
Test solution volume:	25 mL (recommended minimum)
Age of Test Organisms:	Less than 24 hours old (required)
Number of Daphnids Per Test Chamber:	5 (required minimum)
Number of Replicate Test Chambers Per Treatment:	4 (required minimum)
Feeding Regime:	None
Aeration:	None (recommended)
Test Duration:	48 hours
Endpoints:	Survival - 48 hour LC50 and NOAEL
Test Acceptability:	≥ 90% survival of test organisms in controls (required)
Sampling Requirements:	Maximum holding time of 36 hours before first use
Sample volume required:	1 L (recommended)

Pimephales promelas

Test type:	Acute Static Non-Renewal Freshwater Test
Test Reference Manual:	EPA-821-R-02-012 "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater Organisms and Marine Organisms"
Test Method:	*Pimephales promelas* Survival Acute Toxicity Test - EPA 2000.0
Temperature:	25 ˚C ± 1˚C (Temperatures should not deviate by more than 3˚C during the test) (required)
Light Quality:	Ambient Laboratory Illumination (recommended)
Light Intensity:	10-20 µE/m2/s, or 50-100 ft-c (recommended)
Photoperiod:	16 hours light, 8 hours dark (recommended)
Test chamber size:	250 - 1000 mL (250 mL is the recommended minimum)
Test solution volume:	250 mL (200 mL is the recommended minimum)
Age of Test Organisms:	1-14 days; less than or equal to 24-h range in age (required)
Number of Organisms Per Test Chamber:	10 (recommended)
Number of Replicate Test Chambers Per Treatment:	4
Number of Organisms Per Test Concentration:	40
Feeding Regime:	None
Aeration:	None, unless DO concentration falls below 4.0 mg/L, at which point the rate should not exceed 100 bubbles/minute. (recommended)
Test Duration:	48 hours (required)
Endpoints:	Survival - 48 hour LC50 and NOAEL
Test Acceptability:	≥ 90% survival of test organisms in controls (required)
Sampling Requirements:	Maximum holding time of 36 hours before first use
Sample volume required:	2 L (recommended)

DATASHEETS & STATISTICAL ANALYSIS

NEW ENGLAND BIOASSAY
ACUTE TOXICITY DATA FORM

CLIENT:	Eastern Analytical, Inc.	*C.dubia* TEST ID #	21-239a
ADDRESS:	25 Chenell Drive	*P.promelas* TEST ID #	21-239b
	Concord, NH 03301	CHAIN OF CUSTODY #	C41-1509/10
PERMITTEE:	Merrimack Station	NEB PROJECT #	899154
PERMIT NUMBER:	NH0001465	SAMPLE ID:	003 Composite
DILUTION WATER:	Merrimack River		

INVERTEBRATES

TEST SET-UP TECHNICIAN:	CW
TEST SPECIES:	*Ceriodaphnia dubia*
NEB LOT #	Cd21(2-23)
AGE:	<24 hrs
TEST SOLUTION VOLUME (mls):	30
ORGANISMS PER TEST CHAMBER:	5
ORGANISMS PER CONCENTRATION:	20

	DATE	TIME
TEST START:	2/23/21	1557
TEST END:	2/25/21	1558

VERTEBRATES

TEST SET-UP TECHNICIAN:	AG
TEST SPECIES:	*Pimephales promelas*
NEB LOT #	Pp21(2-10)1500
AGE:	14 days
TEST SOLUTION VOLUME (mls):	500
ORGANISMS PER TEST CHAMBER:	10
ORGANISMS PER CONCENTRATION:	40

	DATE	TIME
TEST START:	2/23/21	1548
TEST END:	2/25/21	1530

LABORATORY CONTROL WATER (SRCF)

Lot Number	Hardness mg/L CaCO3	Alkalinity mg/L CaCO3
C41-S004	48	35

COMMENTS:

REVIEWED BY: Kimberly Wills DATE: 3/11/21

NEW ENGLAND BIOASSAY
Ceriodaphnia dubia TEST DATASHEET

Facility Name: Merrimack Station NEB Test ID: 21-239a
NEB Project # 899154 Test Start Date: 2/23/21

Effluent Concentration (%)	Number of Surviving Organisms			Dissolved Oxygen (mg/L)			Temperature (°C)			pH (s.u.)		
Hours	0	24	48	0	24	48	0	24	48	0	24	48
Control A	5	5	5	8.0	8.4	8.3	25.4	24.8	24.6	7.6	7.0	7.6
Control B	5	5	5			8.2			24.8			7.6
Control C	5	5	5			8.2			24.8			7.6
Control D	5	5	5			8.2			24.8			7.6
Diluent A	5	5	5	10.8	8.2	8.2	24.4	25.3	25.0	7.3	7.3	7.4
Diluent B	5	5	5			8.1			25.0			7.3
Diluent C	5	5	5			8.1			25.0			7.3
Diluent D	5	5	5			8.2			24.9			7.2
6.25 A	5	5	5	11.3	8.2	8.1	24.3	25.8	25.1	7.3	7.2	7.1
6.25 B	5	5	5			8.1			25.1			7.1
6.25 C	5	5	5			8.2			25.0			7.0
6.25 D	5	5	5			8.2			24.9			7.1
12.5 A	5	5	5	11.1	7.1	8.1	24.1	26.0	25.2	7.2	8.1	7.1
12.5 B	5	5	4			8.1			25.1			7.1
12.5 C	5	5	5			8.1			25.0			7.0
12.5 D	5	4	4			8.1			25.0			7.0
25 A	5	5	5	10.5	8.1	8.1	24.0	25.6	25.0	7.1	7.1	7.0
25 B	5	5	5			8.1			25.1			7.0
25 C	5	5	4			8.1			25.1			7.0
25 D	5	4	3			8.1			25.0			7.0
50 A	5	5	5	10.8	8.1	8.1	24.0	25.7	25.2	7.0	7.1	7.0
50 B	5	5	5			8.1			25.2			7.0
50 C	5	5	4			8.1			25.1			7.0
50 D	5	5	5			8.1			25.0			7.0
100 A	5	5	5	10.7	8.1	8.2	24.2	26.0	25.2	7.0	7.1	7.0
100 B	5	5	5			8.1			25.3			7.0
100 C	5	5	4			8.1			25.2			7.0
100 D	5	5	5			8.1			25.1			7.0
Technician Initials	CW	KF	PD	AG	KF	PD	AG	KF	PD	AG	KF	PD

Ceriodaphnia 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	16-3855-1418	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:06	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	08 Mar-21 12:05	**MD5 Hash:**	2C46E758F5534F7337762488638E93B7	**Editor ID:**	002-997-881-4

Batch ID:	11-1295-6630	**Test Type:**	Survival (48h)	**Analyst:**			
Start Date:	23 Feb-21 15:57	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water		
Ending Date:	25 Feb-21 15:58	**Species:**	Ceriodaphnia dubia	**Brine:**			
Test Length:	48h	**Taxon:**	Branchiopoda	**Source:**	In-House Culture	**Age:**	<24

Sample ID:	20-7806-3494	**Code:**	7BDCBB86	**Project:**	
Sample Date:	23 Feb-21 08:33	**Material:**	Industrial Effluent	**Source:**	Merrimack(NH0001465) (NH0001465)
Receipt Date:	23 Feb-21 13:45	**CAS (PC):**		**Station:**	
Sample Age:	7h	**Client:**	Eastern Analytical		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.182	18.20%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	14	10	1	6	CDF	0.3451	Non-Significant Effect
		25	14	10	1	6	CDF	0.3451	Non-Significant Effect
		50	16	10	1	6	CDF	0.6105	Non-Significant Effect
		100	16	10	1	6	CDF	0.6105	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0932121	0.0186424	5	1.166	0.3636	Non-Significant Effect
Error	0.287777	0.0159876	18			
Total	0.380989		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.9214	0.884	0.0626	Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	0.9000	0.7163	1.0000	0.9000	0.8000	1.0000	0.0577	12.83%	10.00%
25		4	0.8500	0.5453	1.0000	0.9000	0.6000	1.0000	0.0957	22.53%	15.00%
50		4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%
100		4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.2260	1.0070	1.4450	1.2260	1.1070	1.3450	0.0687	11.21%	8.85%
25		4	1.1710	0.8199	1.5220	1.2260	0.8861	1.3450	0.1103	18.84%	12.96%
50		4	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%
100		4	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%

Ceriodaphnia 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	16-3855-1418	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:06	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	08 Mar-21 12:05	**MD5 Hash:**	2C46E758F5534F7337762488638E93B7	**Editor ID:**	002-997-881-4

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	0.8000	1.0000	0.8000
25		1.0000	1.0000	0.8000	0.6000
50		1.0000	1.0000	0.8000	1.0000
100		1.0000	1.0000	0.8000	1.0000

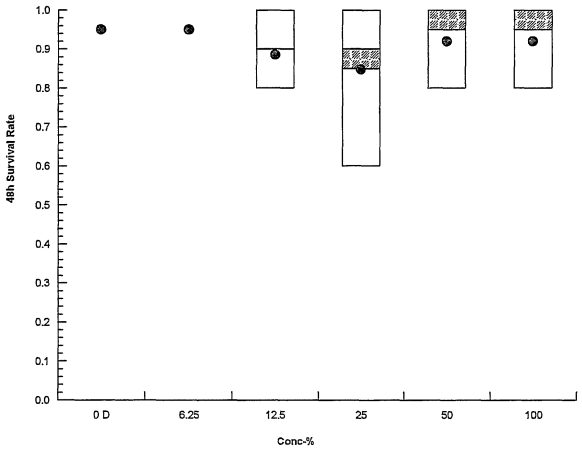
Angular (Corrected) Transformed Detail

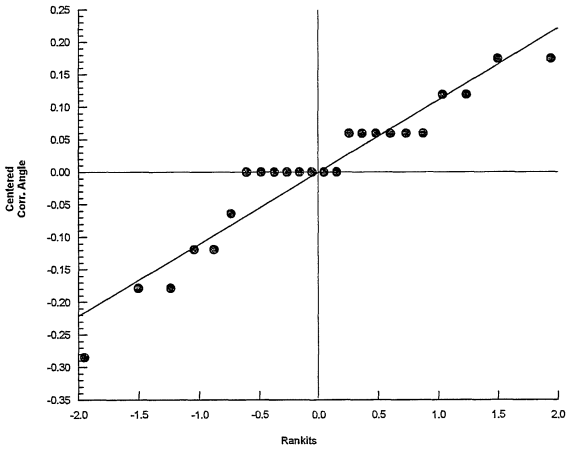
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.1070	1.3450	1.1070
25		1.3450	1.3450	1.1070	0.8861
50		1.3450	1.3450	1.1070	1.3450
100		1.3450	1.3450	1.1070	1.3450

48h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	4/5	5/5	4/5
25		5/5	5/5	4/5	3/5
50		5/5	5/5	4/5	5/5
100		5/5	5/5	4/5	5/5

Graphics





CETIS Analytical Report

Report Date: 08 Mar-21 12:07 (p 1 of 2)
Test Code/ID: 21-239a / 18-2237-8329

Ceriodaphnia 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	09-8126-0841	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:06	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	08 Mar-21 12:05	**MD5 Hash:**	2C46E758F5534F7337762488638E93B7	**Editor ID:**	002-997-881-4

Batch ID:	11-1295-6630	**Test Type:**	Survival (48h)	**Analyst:**			
Start Date:	23 Feb-21 15:57	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water		
Ending Date:	25 Feb-21 15:58	**Species:**	Ceriodaphnia dubia	**Brine:**			
Test Length:	48h	**Taxon:**	Branchiopoda	**Source:**	In-House Culture	**Age:**	<24

Sample ID:	20-7806-3494	**Code:**	7BDCBB86	**Project:**	
Sample Date:	23 Feb-21 08:33	**Material:**	Industrial Effluent	**Source:**	Merrimack(NH0001465) (NH0001465)
Receipt Date:	23 Feb-21 13:45	**CAS (PC):**		**Station:**	
Sample Age:	7h	**Client:**	Eastern Analytical		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	337415	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	D	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	0.9000	0.9000	0.8000	1.0000	12.83%	10.00%	18/20	0.9125	8.75%
25		4	0.8500	0.9000	0.6000	1.0000	22.53%	15.00%	17/20	0.9125	8.75%
50		4	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9125	8.75%
100		4	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9125	8.75%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	0.8000	1.0000	0.8000
25		1.0000	1.0000	0.8000	0.6000
50		1.0000	1.0000	0.8000	1.0000
100		1.0000	1.0000	0.8000	1.0000

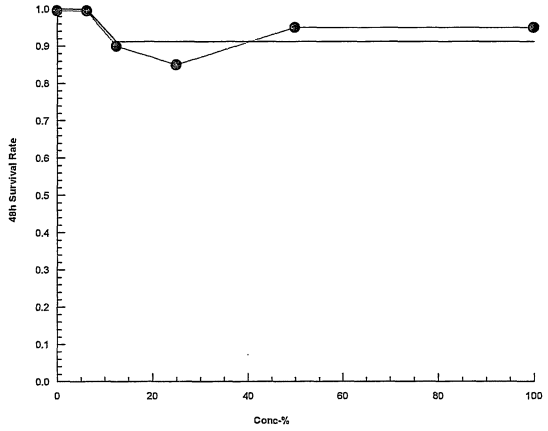
48h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	4/5	5/5	4/5
25		5/5	5/5	4/5	3/5
50		5/5	5/5	4/5	5/5
100		5/5	5/5	4/5	5/5

Ceriodaphnia 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	09-8126-0841	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:06	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	08 Mar-21 12:05	**MD5 Hash:**	2C46E758F5534F7337762488638E93B7	**Editor ID:**	002-997-881-4

Graphics



NEW ENGLAND BIOASSAY
Pimephales promelas TEST DATASHEET

Facility Name: Merrimack Station NEB Test ID: 21-239b
NEB Project # 899154 Test Start Date: 2/23/21

Effluent Concentration (%)	Number of Surviving Organisms			Dissolved Oxygen (mg/L)			Temperature (°C)			pH (s.u.)		
Hours	0	24	48	0	24	48	0	24	48	0	24	48
Control A	10	10	10	8.0	7.7	7.8	25.4	24.3	24.1	7.6	7.6	7.4
Control B	10	10	10		7.7	7.8		24.5	24.5		7.7	7.3
Control C	10	10	10		7.6	7.7		24.5	24.5		7.4	7.3
Control D	10	10	10		7.7	7.7		24.6	24.5		7.4	7.3
Diluent A	10	10	10	10.8	7.8	7.7	24.4	24.4	24.2	7.3	7.3	7.1
Diluent B	10	10	10		8.0	7.7		24.5	24.6		7.3	7.1
Diluent C	10	10	10		8.0	7.7		24.6	24.8		7.2	7.0
Diluent D	10	10	10		8.0	7.7		24.6	24.7		7.1	7.0
6.25 A	10	10	10	11.3	7.9	7.7	24.3	24.7	24.5	7.3	7.0	6.9
6.25 B	10	10	10		8.0	7.6		25.0	25.2		7.0	6.9
6.25 C	10	10	10		8.0	7.5		25.2	25.4		6.9	6.8
6.25 D	10	10	10		7.9	7.5		25.1	25.3		6.9	6.8
12.5 A	10	10	10	11.1	7.9	7.7	24.1	25.2	24.8	7.2	6.9	6.8
12.5 B	10	10	10		8.0	7.6		25.5	25.7		6.9	6.8
12.5 C	10	10	10		8.0	7.6		25.6	25.7		6.9	6.8
12.5 D	10	10	10		8.0	7.4		25.6	25.7		6.9	6.8
25 A	10	10	10	10.5	8.0	7.6	24.0	25.3	24.9	7.1	6.9	6.8
25 B	10	10	10		7.9	7.5		25.6	25.3		6.8	6.8
25 C	10	10	10		7.8	7.5		25.6	25.8		6.8	6.8
25 D	10	10	10		7.9	7.5		25.6	25.7		6.8	6.8
50 A	10	10	10	10.8	7.8	7.8	24.0	25.3	24.9	7.0	6.8	6.8
50 B	10	10	10		7.8	7.6		25.4	25.4		6.9	6.8
50 C	10	10	10		7.8	7.6		25.4	25.5		6.8	6.8
50 D	10	10	10		7.8	7.6		25.3	25.1		6.8	6.8
100 A	10	10	10	10.7	7.9	7.7	24.2	25.2	25.1	7.0	6.8	6.8
100 B	10	10	10		7.8	7.6		25.5	25.8		6.8	6.8
100 C	10	9	9		7.8	7.4		25.6	25.7		6.8	6.8
100 D	10	10	10		7.8	7.6		25.4	25.2		6.8	6.8
Technician Initials	AG	KF	AG	AG	KF	PD	AG	KF	PD	AG	KF	PD

D.O. concentration fell below 4.0 mg/L N/A
All test solutions were aerated at <100 bubbles/minute starting on N/A

Fathead Minnow 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	18-3118-2257	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:12	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	08 Mar-21 12:11	**MD5 Hash:**	693353564FAE815ECDDBF99389C11BCE	**Editor ID:**	002-997-881-4

Batch ID:	09-6980-6326	**Test Type:**	Survival (48h)	**Analyst:**		
Start Date:	23 Feb-21 15:48	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water	
Ending Date:	25 Feb-21 15:30	**Species:**	Pimephales promelas	**Brine:**		
Test Length:	48h	**Taxon:**	Actinopterygii	**Source:**	In-House Culture	**Age:** 14d

Sample ID:	20-8556-9265	**Code:**	7C4F42F1	**Project:**	
Sample Date:	23 Feb-21 08:33	**Material:**	Industrial Effluent	**Source:**	Merrimack(NH0001465) (NH0001465)
Receipt Date:	23 Feb-21 13:45	**CAS (PC):**		**Station:**	
Sample Age:	7h	**Client:**	Eastern Analytical		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.04568	4.57%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water	6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
	12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
	25	18	10	1	6	CDF	0.8333	Non-Significant Effect
	50	18	10	1	6	CDF	0.8333	Non-Significant Effect
	100	16	10	1	6	CDF	0.6105	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0055332	0.0011066	5	1	0.4457	Non-Significant Effect
Error	0.0199195	0.0011066	18			
Total	0.0254527		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.4634	0.884	<1.0E-05	Non-Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
6.25		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
12.5		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
25		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
50		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
100		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	2.89%

Fathead Minnow 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	18-3118-2257	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:12	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:	08 Mar-21 12:11	**MD5 Hash:**	693353564FAE815ECDDBF99389C11BCE	**Editor ID:**	002-997-881-4

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9000	1.0000

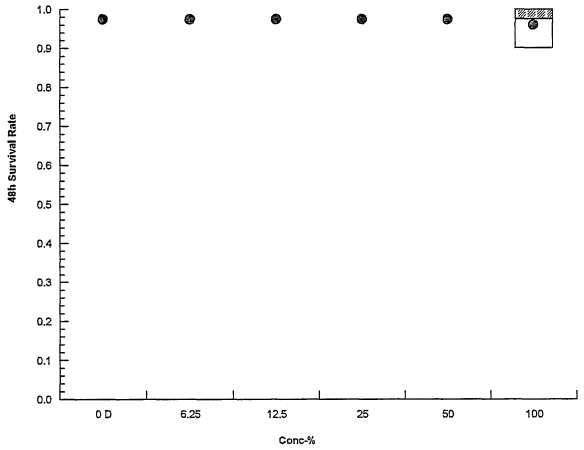
Angular (Corrected) Transformed Detail

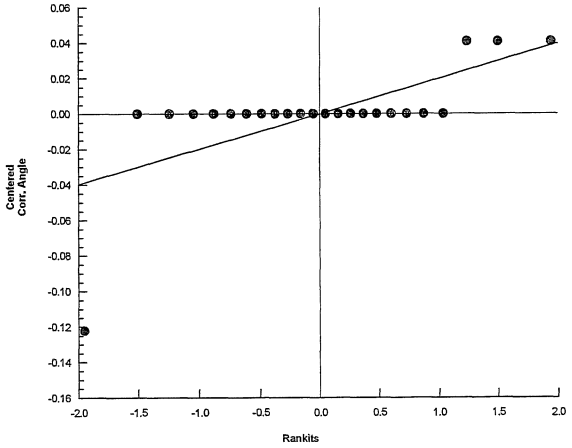
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.4120	1.4120	1.4120	1.4120
6.25		1.4120	1.4120	1.4120	1.4120
12.5		1.4120	1.4120	1.4120	1.4120
25		1.4120	1.4120	1.4120	1.4120
50		1.4120	1.4120	1.4120	1.4120
100		1.4120	1.4120	1.2490	1.4120

48h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	9/10	10/10

Graphics





Fathead Minnow 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	05-9115-0357	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:12	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	08 Mar-21 12:11	**MD5 Hash:**	693353564FAE815ECDDBF99389C11BCE	**Editor ID:**	002-997-881-4

Batch ID:	09-6980-6326	**Test Type:**	Survival (48h)	**Analyst:**			
Start Date:	23 Feb-21 15:48	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water		
Ending Date:	25 Feb-21 15:30	**Species:**	Pimephales promelas	**Brine:**			
Test Length:	48h	**Taxon:**	Actinopterygii	**Source:**	In-House Culture	**Age:**	14d

Sample ID:	20-8556-9265	**Code:**	7C4F42F1	**Project:**	
Sample Date:	23 Feb-21 08:33	**Material:**	Industrial Effluent	**Source:**	Merrimack(NH0001465) (NH0001465)
Receipt Date:	23 Feb-21 13:45	**CAS (PC):**		**Station:**	
Sample Age:	7h	**Client:**	Eastern Analytical		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	29154	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	D	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
100		4	0.9750	1.0000	0.9000	1.0000	5.13%	2.50%	39/40	0.9750	2.50%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9000	1.0000

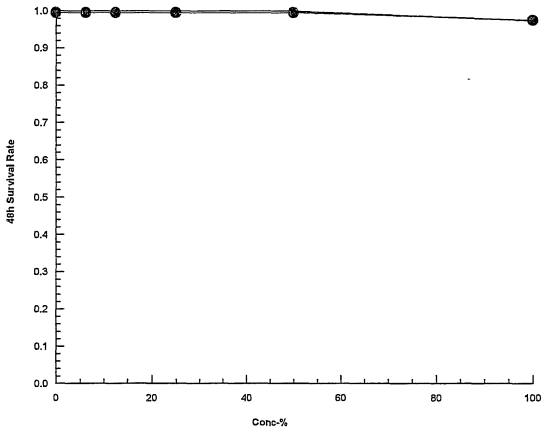
48h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	9/10	10/10

Fathead Minnow 48-h Acute Survival Test — **New England Bioassay**

Analysis ID:	05-9115-0357	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.7
Analyzed:	08 Mar-21 12:12	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	08 Mar-21 12:11	**MD5 Hash:**	693353564FAE815ECDDBF99389C11BCE	**Editor ID:**	002-997-881-4

Graphics



SAMPLE RECEIPT CHEMISTRY
&
CHAIN OF CUSTODY DOCUMENTS

NEW ENGLAND BIOASSAY
INITIAL CHEMISTRY DATA

PERMITTEE: Merrimack Station
NEB PROJECT # 899154

DATE RECEIVED	2/23/21	
SAMPLE TYPE:	EFFLUENT	RECEIVING WATER
COC #	C41-1509	C41-1510
pH (SU)	7.9	7.9
Temperature (^{0}C)	2.5	1.9
Dissolved Oxygen (mg/L)	11.7	11.9
Conductivity (µmhos)	137	141
Salinity (ppt)	<1	<1
TRC - DPD (mg/L)	0.009	0.017
TRC - Amperometric	N/A	N/A
Hardness (mg/L as CaCO3)	20	18
Alkalinity (mg/l as CaCO3)	5	10
Tech Initials	CH	CH

NOTE: NA = NOT APPLICABLE

Additional Notes:

NEW ENGLAND BIOASSAY
CHAIN-OF-CUSTODY

222504

EFFLUENT

Sampler: Teague Coyle
Title: Eastern Analytical Field Tech
Facility: Granite Shore Power-Merrimack Station
Address: 431 River Road
Bow, NH 03304

RECEIVING WATER

Sampler: Teague Coyle
Title: Eastern Analytical Field Tech
Facility: Granite Shore Power-Merrimack Station
Address: 431 River Road
Bow, NH 03304

Sample Information

Collection Method: ___ Grab / X Composite

Sample ID: 003 Composite

Start & End Dates: 2/22/21 - 2/23/21

Start & End Times: 08:33 - 08:33

Type of Sample: ___ WWTF Effluent / X Industrial Effluent / ___ Other ___

Is the sample: ___ Prechlorinated / ___ Dechlorinated / ___ Chlorine spiked in lab / ___ Unchlorinated

Collection Method: X Grab / ___ Composite

Sample ID: Merrimack River

Date Collected: 2/23/21

Time Collected: 0825

Type of Sample: X Receiving Water / ___ Other ___

Is the sample: X Unchlorinated

Due to COVID-19 safety precautions Samples were received in NEB refrigerator

Site Description: ___

Sample Collection Procedures: ___

Sample Shipment

Method of Shipment: NEB courier

Relinquished By: [signature] Date: 2/23/2021 Time: 10:45

Received By: [signature] Date: 2/23/2021 Time: 1045

Relinquished By: [signature] Date: 2/23/2021 Time: 1050

Received By: [signature] Date: 2/23/21 Time: 1100

R1Q by [signature] Optional Information 2/23/21 ~~HOC~~ 1245

Rec'd by (NEB): [signature] 2/23/21 @ 1345

Purchase Order # to reference on invoice: ___

FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 2.5 °C

Temperature of Receiving Water Upon Receipt at Lab: 1.9 °C

Effluent COC# C41-1509

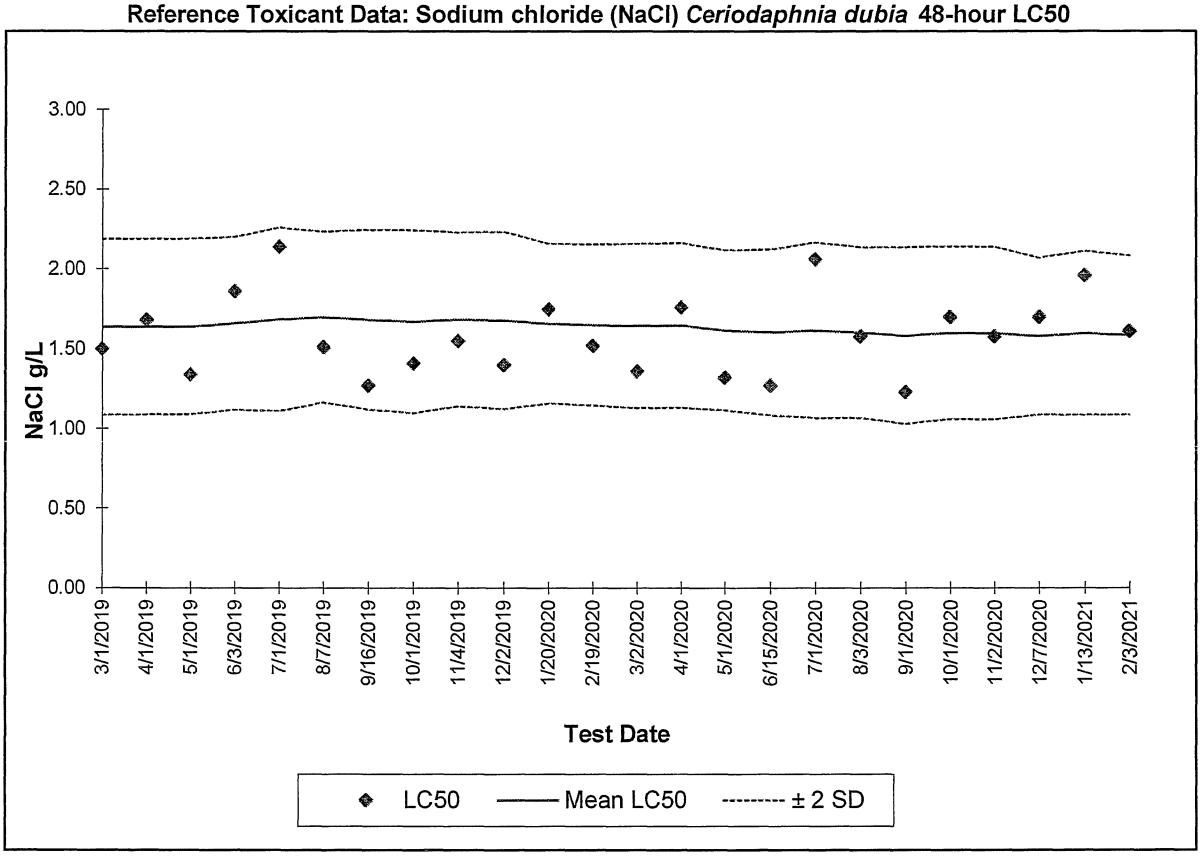
Receiving Water COC# C41-1510

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042

REFERENCE TOXICANT CHARTS

New England Bioassay

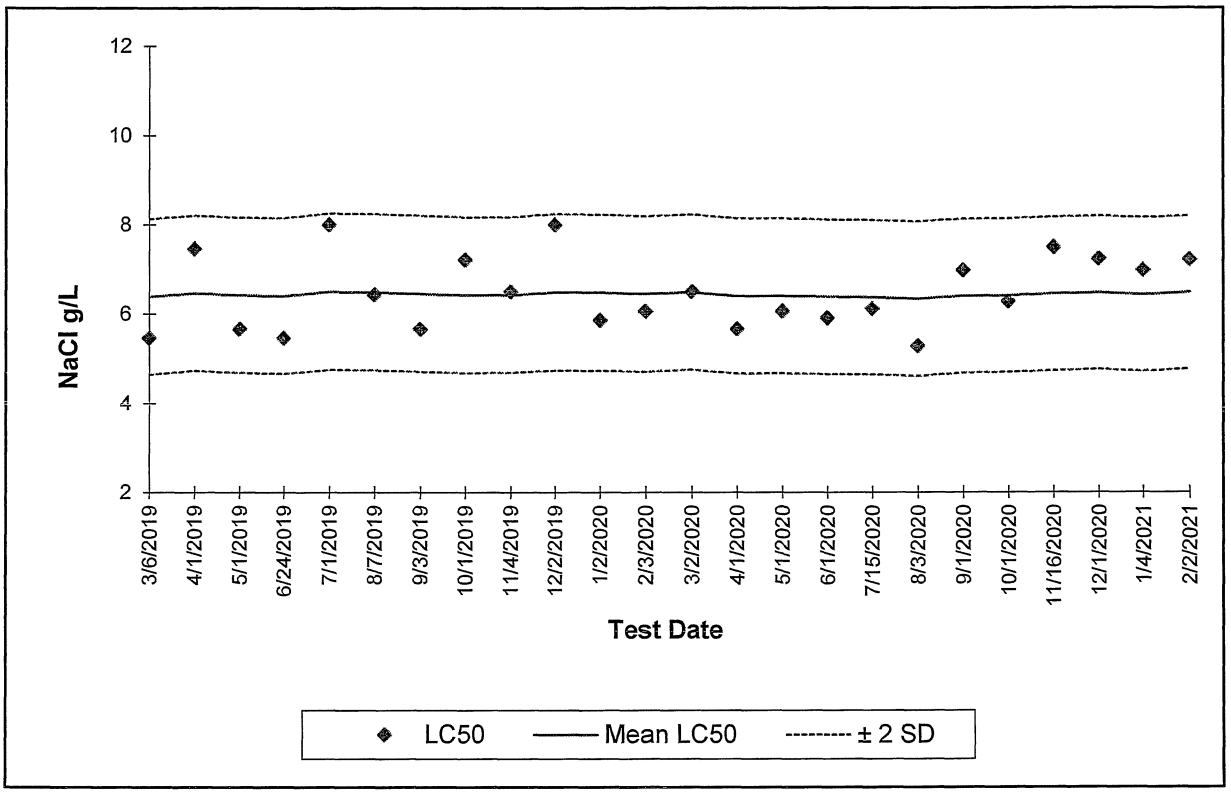
Reference Toxicant Data: Sodium chloride (NaCl) *Ceriodaphnia dubia* 48-hour LC50



Test ID	Date	LC_{50}	Mean LC_{50}	STD	-2 STD	+2 STD	CV	CV National 75th %	CV National 90th %
19-259	3/1/2019	1.50	1.64	0.28	1.08	2.19	0.18	0.29	0.34
19-401	4/1/2019	1.68	1.64	0.28	1.09	2.19	0.17	0.29	0.34
19-548	5/1/2019	1.34	1.64	0.27	1.09	2.19	0.17	0.29	0.34
19-684	6/3/2019	1.86	1.66	0.27	1.12	2.20	0.17	0.29	0.34
19-866	7/1/2019	2.14	1.68	0.29	1.11	2.26	0.16	0.29	0.34
19-1085	8/7/2019	1.51	1.70	0.27	1.16	2.23	0.17	0.29	0.34
19-1315	9/16/2019	1.27	1.68	0.28	1.12	2.25	0.16	0.29	0.34
19-1403	10/1/2019	1.41	1.67	0.29	1.10	2.24	0.17	0.29	0.34
19-1564	11/4/2019	1.55	1.68	0.27	1.14	2.23	0.17	0.29	0.34
19-1688	12/2/2019	1.40	1.68	0.28	1.12	2.23	0.16	0.29	0.34
20-76	1/20/2020	1.75	1.66	0.25	1.16	2.16	0.16	0.29	0.34
20-207	2/19/2020	1.52	1.65	0.25	1.15	2.15	0.15	0.29	0.34
20-286	3/2/2020	1.36	1.64	0.26	1.13	2.16	0.16	0.29	0.34
20-423	4/1/2020	1.76	1.65	0.26	1.13	2.16	0.16	0.29	0.34
20-574	5/1/2020	1.32	1.62	0.25	1.12	2.12	0.15	0.29	0.34
20-823	6/15/2020	1.27	1.60	0.26	1.08	2.12	0.16	0.29	0.34
20-895	7/1/2020	2.06	1.62	0.28	1.07	2.17	0.17	0.29	0.34
20-1067	8/3/2020	1.58	1.60	0.27	1.07	2.14	0.17	0.29	0.34
20-1252	9/1/2020	1.23	1.58	0.28	1.03	2.14	0.17	0.29	0.34
20-1421	10/1/2020	1.70	1.60	0.27	1.06	2.14	0.17	0.29	0.34
20-1613	11/2/2020	1.58	1.60	0.27	1.06	2.14	0.17	0.29	0.34
20-1788	12/7/2020	1.70	1.58	0.25	1.09	2.07	0.16	0.29	0.34
21-45	1/13/2021	1.96	1.60	0.26	1.08	2.11	0.16	0.29	0.34
21-135	2/3/2021	1.61	1.59	0.25	1.09	2.08	0.16	0.29	0.34

New England Bioassay

Reference Toxicant Data: Sodium chloride (NaCl) *Pimephales promelas* 48-hour LC50



Test ID	Date	LC_{50}	Mean LC_{50}	STD	-2 STD	+2 STD	CV	CV National 75th%	CV National 90th%
19-286	3/6/2019	5.46	6.38	0.87	4.64	8.12	0.14	0.19	0.33
19-399	4/1/2019	7.46	6.46	0.87	4.73	8.20	0.13	0.19	0.33
19-551	5/1/2019	5.66	6.42	0.87	4.68	8.16	0.14	0.19	0.33
19-821	6/24/2019	5.46	6.40	0.87	4.66	8.14	0.14	0.19	0.33
19-869	7/1/2019	8.00	6.50	0.88	4.75	8.26	0.13	0.19	0.33
19-1088	8/7/2019	6.44	6.49	0.87	4.74	8.24	0.13	0.19	0.33
19-1225	9/3/2019	5.66	6.45	0.87	4.71	8.20	0.14	0.19	0.33
19-1406	10/1/2019	7.21	6.42	0.87	4.68	8.17	0.14	0.19	0.33
19-1567	11/4/2019	6.50	6.42	0.87	4.68	8.16	0.14	0.19	0.33
19-1691	12/2/2019	8.00	6.49	0.88	4.73	8.24	0.14	0.19	0.33
20-9	1/2/2020	5.86	6.48	0.87	4.73	8.23	0.14	0.19	0.33
20-131	2/3/2020	6.06	6.45	0.87	4.70	8.19	0.14	0.19	0.33
20-289	3/2/2020	6.50	6.48	0.87	4.75	8.22	0.13	0.19	0.33
20-426	4/1/2020	5.66	6.40	0.87	4.66	8.13	0.14	0.19	0.33
20-576	5/1/2020	6.06	6.41	0.87	4.67	8.14	0.14	0.19	0.33
20-720	6/1/2020	5.91	6.38	0.86	4.65	8.11	0.14	0.19	0.33
20-982	7/15/2020	6.12	6.37	0.86	4.64	8.09	0.14	0.19	0.33
20-1070	8/3/2020	5.28	6.34	0.86	4.61	8.06	0.14	0.19	0.33
20-1255	9/1/2020	6.98	6.40	0.86	4.67	8.12	0.13	0.19	0.33
20-1424	10/1/2020	6.28	6.41	0.86	4.69	8.13	0.13	0.19	0.33
20-1687	11/16/2020	7.49	6.45	0.86	4.73	8.17	0.13	0.19	0.33
20-1736	12/1/2020	7.23	6.47	0.86	4.75	8.19	0.13	0.19	0.33
21-7	1/4/2021	6.98	6.43	0.86	4.71	8.15	0.13	0.19	0.33
21-138	2/2/2021	7.21	6.48	0.86	4.76	8.19	0.13	0.19	0.33

NHELAP
PRIMARY ACCREDITATION ANALYTE LIST

NEW HAMPSHIRE ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

29 Hazen Drive, PO Box 95, Concord, NH 03302 (603) 271-2998

PRIMARY ACCREDITATION ANALYTE LIST

ANALYTE LIST NUMBER: 207120-A

NEW ENGLAND BIOASSAY
77 BATSON DRIVE

MANCHESTER CT 06042
860-643-9560
Lab ID: 2071

Analyte Code	Analyte Name	Effective Date	Expiration Date	Matrix	Category	Accr. Type
Method Code: 10115818	**Method Ref: EPA 1006.0 - INLAND SILVERSIDE CHRONIC TOXICITY**		**Revision:**		**Date: 2002**	
3470	IC25 (ON) GROWTH	10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)	10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10116219	**Method Ref: EPA 1008.0 - SEA URCHIN CHRONIC TOXICITY**		**Revision:**		**Date: 2002**	
3480	IC25 REPRODUCTION	10/30/2019	05/26/2021	N	TOX	NE
3458	LOEC REPRODUCTION	10/30/2019	05/26/2021	N	TOX	NE
3485	NOEC REPRODUCTION	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10213602	**Method Ref: EPA 2000.0 - FATHEAD MINNOW, 48-HR ACUTE, NONRENEW**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10213646	**Method Ref: EPA 2002.0 CERIODAPHNIA DUBIA, 48-HR ACUTE, NONRENEWAL, 25°C, MHSF**		**Revision:**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10214207	**Method Ref: EPA 1000.0 - FATHEAD MINNOW, 7-DAY CHRONIC, DAILY**		**Revision:**		**Date: 2002**	
3470	IC25 (ON) GROWTH	10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)	10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10214581	**Method Ref: EPA 2002.0 - CERIODAPHNIA ACUTE TOXICITY**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10214809	**Method Ref: EPA 2002.0 - CERIODAPHNIA DUBIA, 48-HR ACUTE, RENE**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10215404	**Method Ref: EPA 2021.0 - DAPHNIA MAGNA, 48-HR ACUTE, NONRENEWA**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10215415	**Method Ref: EPA 2021.0 - DAPHNIA MAGNA, 48-HR ACUTE, NONRENEWA**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10215426	**Method Ref: EPA 2021.0 - DAPHNIA PULEX ACUTE TOXICITY**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10215619	**Method Ref: EPA 2021.0 - DAPHNIA PULEX, 48-HR ACUTE, NONRENEWA**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216010	**Method Ref: EPA 2007.0 - MYSID ACUTE TOXICITY**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE

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NEW HAMPSHIRE ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

29 Hazen Drive, PO Box 95, Concord, NH 03302 (603) 271-2998

PRIMARY ACCREDITATION ANALYTE LIST

ANALYTE LIST NUMBER: 207120-A

NEW ENGLAND BIOASSAY
77 BATSON DRIVE

MANCHESTER CT 06042
860-643-9560
Lab ID: 2071

Method Code: 10216021		**Method Ref: EPA 2007.0 MYSID (MYSIDOPSIS BAHIA, AMERICAMYSIS BAHIA), 48-HR ACUTE, NONRENEWAL, 25°C, SSW**		**Revision:**		**Date: 2002**	
3460	LC50		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216214		**Method Ref: EPA 1007.0 - MYSID CHRONIC TOXICITY**		**Revision:**		**Date: 2002**	
3470	IC25 (ON) GROWTH		10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)		10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216418		**Method Ref: EPA 2006.0 - MENIDIA ACUTE TOXICITY**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216429		**Method Ref: EPA 2006.0 INLAND SILVERSIDE (MENIDIA BERYLLINA), 48-HR ACUTE, NONRENEWAL, 25°C, SSW**		**Revision:**		**Date: 2002**	
3460	LC50		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216601		**Method Ref: EPA 2004.0 - SHEEPSHEAD MINNOW, 48-HR ACUTE, NONRE**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216612		**Method Ref: EPA 2004.0 - SHEEPSHEAD MINNOW ACUTE TOXICITY**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216623		**Method Ref: EPA 2004.0 - SHEEPSHEAD MINNOW, 48-HR ACUTE, NONRE**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216645		**Method Ref: EPA 2004.0 SHEEPSHEAD MINNOW (CYPRINODON VARIEGATUS), 48-HR ACUTE, NONRENEWAL, 25°C, SSW**		**Revision:**		**Date: 2002**	
3460	LC50		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10216827		**Method Ref: EPA 1004.0 SHEEPSHEAD MINNOW (CYPRINODON VARIEGATUS), 7-DAY CHRONIC, DAILY RENEWAL, SSW**		**Revision:**		**Date: 2002**	
3470	IC25 (ON) GROWTH		10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)		10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10252605		**Method Ref: EPA 1000.0 - FATHEAD MINNOW CHRONIC TOXICITY**		**Revision: 4TH ED**		**Date: 2002**	
3470	IC25 (ON) GROWTH		10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)		10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10253006		**Method Ref: EPA 1002.0 - CERIODAPHNIA DUBIA CHRONIC TOXICITY**		**Revision: 4TH ED**		**Date: 2002**	
3480	IC25 REPRODUCTION		10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)		10/30/2019	05/26/2021	N	TOX	NE
3485	NOEC REPRODUCTION		10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10253040		**Method Ref: EPA 1002.0 - CERIODAPHNIA DUBIA, 3-BROOD CHRONIC,**		**Revision:**		**Date: 2002**	
3480	IC25 REPRODUCTION		10/30/2019	05/26/2021	N	TOX	NE

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NEW ENGLAND BIOASSAY
77 BATSON DRIVE

MANCHESTER CT 06042
860-643-9560
Lab ID: 2071

3465	NOEC (SURVIVAL)	10/30/2019	05/26/2021	N	TOX	NE
3485	NOEC REPRODUCTION	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10253404	**Method Ref: EPA 1004.0 - SHEEPSHEAD MINNOW CHRONIC TOXICITY**		**Revision:**		**Date: 2002**	
3470	IC25 (ON) GROWTH	10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)	10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10253824	**Method Ref: EPA 1006.0 INLAND SILVERSIDE (MENIDIA BERYLLINA), 7-DAY CHRONIC, DAILY RENEWAL, SSW**		**Revision:**		**Date: 2002**	
3470	IC25 (ON) GROWTH	10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)	10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10254021	**Method Ref: EPA 1007.0 MYSID (MYSIDOPSIS BAHIA, AMERICAMYSIS BAHIA), 7-DAY CHRONIC, DAILY RENEWAL, SSW**		**Revision:**		**Date: 2002**	
3470	IC25 (ON) GROWTH	10/30/2019	05/26/2021	N	TOX	NE
3475	NOEC (GROWTH)	10/30/2019	05/26/2021	N	TOX	NE
3465	NOEC (SURVIVAL)	10/30/2019	05/26/2021	N	TOX	NE
Method Code: 10264809	**Method Ref: EPA 2000.0 - FATHEAD MINNOW ACUTE TOXICITY**		**Revision: 5TH ED**		**Date: 2002**	
3460	LC50	10/30/2019	05/26/2021	N	TOX	NE

NEW ENGLA 5/28/2020

Bill Hall
NH ELAP Program Manager
Issue Date: 05/28/2020

Matrix Legend: AE=Air; BT=Tissue; D=Drinking Water; N=Non-Potable Water; SC=Solid and Chemical Materials

Category Legend: MIC=Microbiology; MET=Metals; NMI=Non-Metal Inorganics; PRE=Preparation; VOC=Volatile Organic Compounds; SBN=SVOC-BNA; SHE=SVOC-Herbicides; SNO=SVOC-NOS; SPC=SVOC-PCB; SPE=SVOC-Pesticides; RAD=Radiochemistry; WET=Wet

Accreditation Legend: NE=NELAP; NH=NH State Certification; CE=State Certification; IN=Interim (NELAP); WI=Withdrawn; AP=Applied; RE=Revoked; SU=Suspended

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CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

222504

36

aSampleID	Date/Time	aMatrix	Parameters	Sample Notes	# of containers
003 Composite	2/22-2/23/21 0833-0833	WW	Acute Whole Effluent Toxicity, Ammonia, Total Solids, Total Dissolved Solids, Total Hardness, Total Cadmium, Lead, Copper, Zinc, Nickel, Aluminum, Alkalinity, Total Organic Carbon		6
preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE					
003 Grab	2/23/21 0847	WW	Total Residual Chlorine, Field pH, Field Specific Conductance		2
preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE					
Merrimack River	2/23/21 0825	WW	Acute Whole Effluent Toxicity, Ammonia, Total Hardness, Total Cadmium, Lead, Copper, Zinc, Nickel, Aluminum, Alkalinity, Total Organic Carbon, Field pH, Field Specific Conductance, Field Temperature		5
preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE					

aClientID Merrimack Station Toxicity
nProjectID 5551 **nYearMonth** 2021.01
Client (Pro Mgr) Allan Palmer
Customer Granite Shore Power
Address 431 River Road
City Bow **NH** 03304
Phone 230-7997
Fax

Results Needed by: Preferred date _____

Notes about project
003 Composite is a flow-based composite

ReportingOptions
☒ HC ☐ NO FAX ☐ EDD Disk
☐ Fax ☐ No partial FAX ☒ EDD emai

PO# _____
Quote# 1017888

Ice: Y☑ N☐
Temperature 2.3°C

Samples Collected by: EAI FS-TC

Relinquished by	Date/Time	Received by
[signature]	2/23/21 1045	[signature]
Relinquished by	Date/Time	Received by